RON AGE MARCH 1987

MANUFACTURING MANAGEMENT

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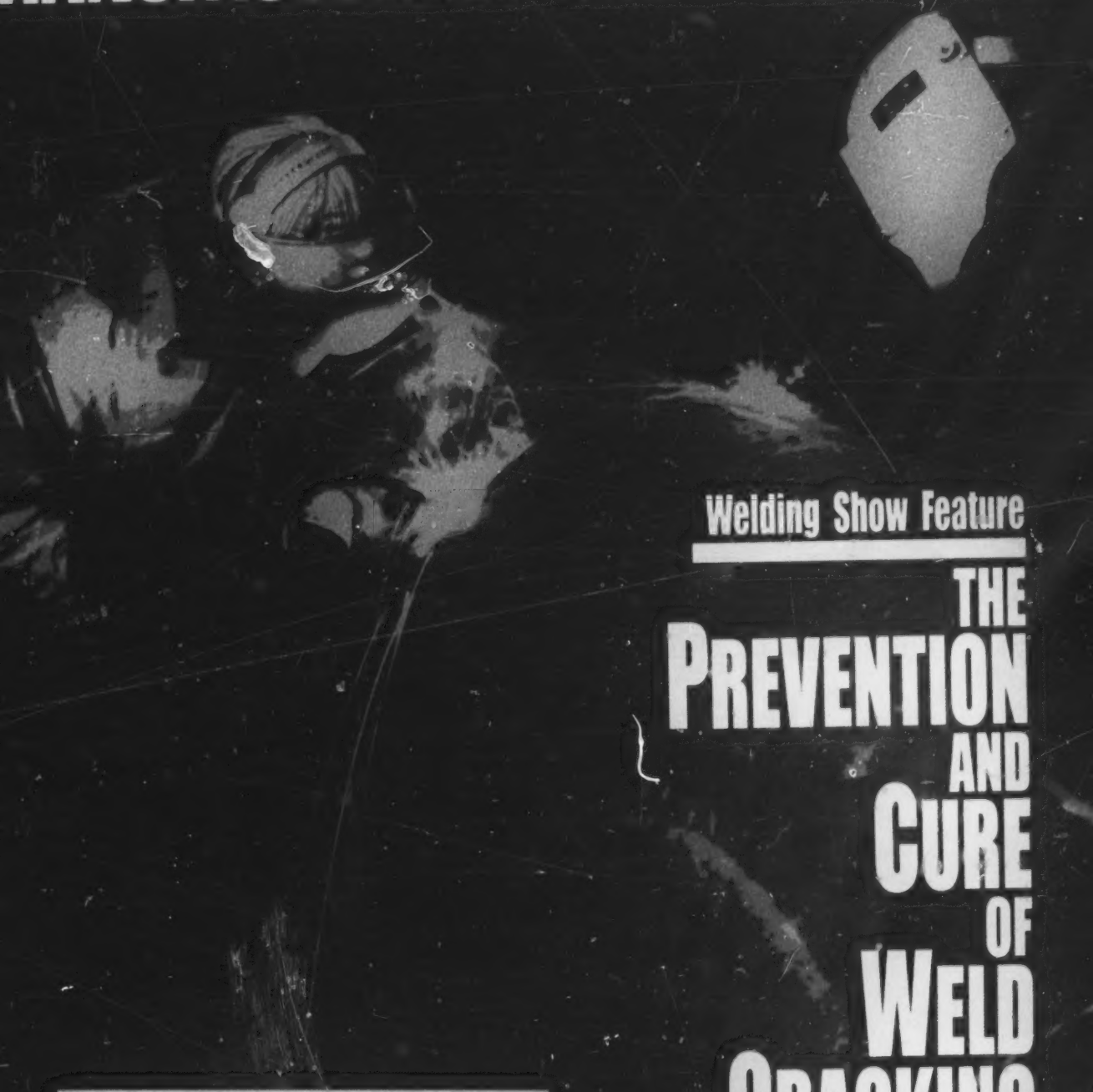

Welding Show Feature

THE PREVENTION AND CURE OF WELD CRACKING

Finally, Assembly Costs Come Under the Gun

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IRON AGE
MANUFACTURING MANAGEMENT

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PRICE & PRODUCTION DATA

(Effective February 2, 1987)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	119	135	131	179
Pittsburgh	170	171	180	206
Youngstown	110	111	105	112
Lake Erie	111	109	105	130
Detroit	150	150	150	141
Chicago	337	334	335	509
Midwest	163	156	159	172
Southern	138	138	144	227
Western	39	39	40	87
U.S. Production	1,337	1,343	1,349	1,763

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural) ..... gross-ton 58.0*
Pellets (per iron unit natural) ..... gross-ton 59.4**
Pellets (per iron unit natural) ..... gross-ton 72.45-86.9***
Mesabi, regular-unscreened ..... gross-ton 32.53
Mesabi, non-bessemer ..... gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel upper Lake ports. ***72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82, Hanna Mining and Cleveland Cliffs, 2/26/82.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective February 2, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,337	1,343	5,934	7,647
Capability Utilization Rate	58.4	58.7	58.6	69.2

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 1/4/87)	25.236	25.236	24.951	24.607
Pig Iron** (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 77.50	$ 75.83	$ 76.50	$ 75.50
No. 2 bundles	$ 51.17	$ 51.17	$ 52.17	$ 53.83

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh	$ 82.50	$ 79.50	$ 79.50	$ 76.50
No. 1 steel, Philadelphia	71.50	69.50	71.50	72.50
No. 1 steel, Chicago	78.50	78.50	78.50	77.50
No. 1 bundles, Detroit	85.50	85.50	80.50	70.50
Low Phos., Youngstown	82.50	79.50	79.50	76.50
No. 1 mach'y cast, Pgh	74.50	74.50	74.50	68.50
No. 1 mach'y cast, Phila	93.50	93.50	93.50	92.50
No. 1 mach'y cast, Chi.	101.50	101.50	101.50	109.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective February 2, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	54.60	52.80	2/2/87
Copper (C)	64.50	64.00	1/26/87
Lead	26.00	27.00	2/2/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	167.00	162.00	1/26/87
Zinc	47.00	44.50	10/6/86

ALUMINUM: Avg. for last week & previous week. COPPER (C): cathode. LEAD: common grade. MAGNESIUM: 99.8% pig delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder	200 $229.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz.	$420.00
Indium, per troy oz.	$2.87
Iridium, per troy oz.	$411.00
Magnesium sticks, 10,000 lbs.	$2.02
Mercury, per 76-lb., f.o.b. N.Y.	$212.00-225.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO con.	$3.45
Palladium, per troy oz.	$124.00
Platinum, per troy oz.	$529.00
Rhodium, per troy oz	$1,162.00
Silver ingots, per troy oz	$5.51
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.00-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

January 26—301.00 January 29-Holiday
January 27—301.00 January 30-Holiday
January 28—302.00

Scrap Prices

Brass Mill Scrap

(Cents per lb.; over 20,000 lbs. add 1¢ per lb.)

	Solids	Turnings
Copper	55½	50½
Yellow brass	48	47½
Red brass	49	45
Comm. bronze	50½	45½
Mang. bronze	38½	37½
Free cutting rod ends	47	46

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	54
No. 2 copper wire	46
Light copper	40

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	48
No. 2 copper wire	39
Light copper	32
No. 1 composition	41
No. 1 comp. turnings	41
Hvy. yellow brass solids	28
Hvy. yellow brass turnings	23
Radiators	26

Aluminum

New mixed clips	32	— 33
Old sheet	29	— 30
Old cast	29	— 30
Clean dry borings	30	— 31

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	28	— 29
Mixed I.C. clips	26	— 27
Old sheets and cast	23	— 24
Borings and turnings	19	— 20
Duraluminum clippings	24	— 25

Copper and Brass

No. 1 copper wire	43	— 46
No. 2 copper wire	34	— 35
Light copper	31	— 32
Radiators	21	— 22
No. 1 composition	35	— 36
No. 1 composition turnings	33	— 34
Cocks and faucets	29	— 30
Clean heavy yellow brass	25	— 27
Brass pipe	25	— 26
New soft brass clippings	38	— 39

Lead

Heavy soft lead	8	— 9
Whole batteries	1	— 2
Type metal	17	— 18
Electrotype	14	— 15

Nickel

Nickel solids	100	—110
Nickel rod ends	100	—110
Nickel sheets, clips	100	—110
Nickel turnings	25	— 35

Zinc

New zinc clippings	14	— 15
Old diecast zinc	10	— 11

EFFECTIVE FEBRUARY 2, 1987

(Effective February 2, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 82.00 to	$ 83.00
No. 2 hvy. melting	72.00 to	73.00
No. 1 dealer bundles	104.00 to	105.00
No. 1 factory bundles (auto)	107.00 to	108.00
No. 2 bundles	45.00 to	46.00
No. 1 busheling	104.00 to	105.00
Machine shop turnings	8.00 to	9.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	45.00 to	46.00
Low phos. punchings plate	107.00 to	108.00
Heavy turnings	72.00 to	73.00
No. 1 RR hvy. melting	86.00 to	87.00
Rails, 2 ft. and under	98.00 to	99.00
Scrap rails, random lgth.	86.00 to	87.00
RR specialties	99.00 to	100.00
No. 1 machinery cast	74.00 to	75.00
Cupola cast	67.00 to	68.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	475.00 to	485.00
18-8 turnings	375.00 to	385.00

Chicago

No. 1 hvy. melting	$ 78.00 to	$ 79.00
No. 2 hvy. melting	74.00 to	75.00
No. 1 dealer bundles	99.00 to	100.00
No. 1 factory bundles (auto)	102.00 to	103.00
No. 2 dealer bundles	62.00 to	63.00
No. 1 busheling	89.00 to	90.00
Shredder scrap	83.00 to	84.00
Machine shop turnings	24.00 to	25.00
Mixed borings and turnings	16.00 to	17.00
Shoveling turnings	25.00 to	26.00
Cast iron borings	40.00 to	41.00
Low phos. forge crop	95.00 to	96.00
Low phos. punchings plate 1/4 in. and heavier	115.00 to	116.00
Low phos. 2 ft. and under	108.00 to	109.00
No. 1 RR hvy. melting	82.00 to	83.00
Scrap rails random lgth.	79.00 to	80.00
Remelt rails	100.00 to	101.00
Rails, 2 ft. and under	94.00 to	95.00
RR couplers and knuckles	79.00 to	80.00
RR car axles	104.00 to	105.00
No. 1 machinery cast	101.00 to	102.00
Cupola cast	89.00 to	90.00
Stove plate	99.00 to	100.00
Steel car wheels	85.00 to	86.00
Stainless		
18-8 bundles and solids	450.00 to	460.00
18-8 turnings	350.00 to	360.00
430 bundles and solids	125.00 to	135.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 70.00 to	$ 73.00
No. 2 hvy. melting	62.00 to	65.00
No. 1 dealer bundles	86.00 to	89.00
No. 2 dealer bundles	44.00 to	47.00
No. 1 busheling	83.00 to	86.00
Shredder scrap	84.00 to	87.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	39.00 to	42.00
Low phos. 5 ft. and under	72.00 to	75.00
Low phos. 2 ft. punchings	91.00 to	94.00
Electric furnace bundles	99.00 to	100.00
RR specialties	80.00 to	83.00
Rails, 2 ft. and under	96.00 to	99.00
Cupola cast	80.00 to	83.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 54.00 to	$ 55.00
No. 2 hvy. melting	53.00 to	54.00
No. 1 dealer bundles	85.00 to	86.00
No. 2 bundles	41.00 to	42.00
No. 1 busheling	83.00 to	84.00
Drop forge flashings	44.00 to	45.00
Machine shop turnings	24.00 to	25.00
Mixed borings and turnings	6.00 to	7.00
Shoveling turnings	24.00 to	25.00
Cast iron borings	21.00 to	22.00
Heavy breakable cast	32.00 to	33.00
Mixed cupola cast	47.00 to	48.00
Automobile cast	71.00 to	72.00
Stainless		
18-8 bundles and solids	430.00 to	440.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 66.00 to	$ 67.00
No. 2 hvy. melting	63.00 to	64.00
No. 1 dealer bundles	89.00 to	90.00
No. 2 dealer bundles	45.00 to	46.00
Machine shop turnings	18.00 to	19.00
Shoveling turnings	18.00 to	19.00
Low phos. plate	82.00 to	83.00
Electric furnace bundles	73.00 to	74.00
Galvanized bundles	70.00 to	71.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 62.00 to	$ 63.00
No. 2 hvy. melting	59.00 to	60.00
No. 1 dealer bundles	91.00 to	92.00
No. 1 factory bundles	92.00 to	93.00
No. 2 bundles	34.00 to	35.00
No. 1 busheling	80.00 to	81.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	17.00 to	18.00
Cast iron borings	20.00 to	21.00
Cut structural & plates, 5 ft. and under	79.00 to	80.00
Cut structural & plates, 2 ft. and under	99.00 to	100.00
Low phos. punchings plate	99.00 to	100.00
Foundry steel, 2 ft. & under	60.00 to	61.00
No. 1 RR hvy. melting	68.00 to	69.00
Rails, 2 ft. and under	100.00 to	101.00
Rails, 18 in. and under	102.00 to	103.00
No. 1 machinery cast	85.00 to	86.00
Mixed cast	52.00 to	53.00
Stainless		
18-8 bundles	435.00 to	445.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 57.00 to	$ 58.00
No. 2 hvy. melting	47.00 to	48.00
No. 1 busheling	81.00 to	82.00
No. 1 dealer bundles	81.00 to	82.00
No. 2 bundles	32.00 to	33.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos. plate	82.00 to	83.00
Structural and plate, 2 ft. and under	84.00 to	85.00
Rails, 2 ft. and under	81.00 to	82.00
Scrap rails, random lgth.	63.00 to	64.00
No. 1 machinery cast	76.00 to	77.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 74.00 to	$ 75.00
No. 2 hvy. melting	61.00 to	62.00
No. 1 busheling	88.00 to	89.00
No. 1 dealer bundles	89.00 to	90.00
No. 2 bundles	57.00 to	58.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No. 1 RR hvy. melting	83.00 to	84.00
Rails, random length	76.00 to	77.00
Rails, 5 ft. and under	91.00 to	92.00
RR specialties	83.00 to	84.00
Cupola cast	66.00 to	67.00
Heavy breakable cast	40.00 to	41.00
Stove plate	85.00 to	86.00
Steel car wheels	85.00 to	86.00
Rerolling rails	99.00 to	100.00
Unstripped motor blocks	49.00 to	50.00

Birmingham

No. 1 hvy. melting	$ 73.00 to	$ 74.00
No. 2 hvy. melting	69.00 to	70.00
No. 1 dealer bundles	73.00 to	74.00
No. 2 bundles	49.00 to	50.00
No. 1 busheling	73.00 to	74.00
Shredder scrap	95.00 to	96.00
Machine shop turnings	28.00 to	29.00
Shoveling turnings	39.00 to	40.00
Cast iron borings	36.00 to	37.00
Electric furnace bundles	69.00 to	70.00
Elec. furnace, 3 ft. & under	75.00 to	76.00
Structural and plate, 2 ft.	94.00 to	95.00
Structural and plate, 4 ft.	86.00 to	87.00
No. 1 RR hvy. melting	86.00 to	87.00
Scrap rails, random lgth.	80.00 to	81.00
Rails, 2 ft. and under	97.00 to	98.00
Angles and splice bars	86.00 to	87.00
No. 1 cupola cast	82.00 to	83.00
Unstripped motor blocks	74.00 to	75.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 60.00 to	$ 61.00
No. 2 hvy. melting	53.00 to	54.00
No. 1 dealer bundles	85.00 to	86.00
No. 2 bundles	32.00 to	33.00
Machine shop turnings	11.00 to	12.00
Shoveling turnings	14.00 to	15.00
Cast iron borings	24.00 to	25.00
Low phos. 18 in. and under	85.00 to	86.00
Rails, random length	65.00 to	66.00
Rails, 2 ft. and under	85.00 to	86.00
No. 1 cupola cast	69.00 to	70.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	74.00 to	75.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	370.00 to	390.00
18-8 turnings	270.00 to	310.00
430 prepared solids	90.00 to	100.00
430 solids	75.00 to	85.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 49.00 to	$ 51.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	53.00 to	55.00
No. 2 bundles	32.00 to	34.00
No. 1 busheling	56.00 to	58.00
Shredder scrap	59.00 to	61.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	72.00 to	77.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	34.00 to	36.00
No. 1 dealer bundles	31.00 to	33.00
No. 2 dealer bundles	20.00 to	21.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 34.00 to	$ 36.00
No. 2 hvy. melting	28.00 to	30.00
No. 1 dealer bundles	26.00 to	28.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	9.00 to	10.00
Shoveling turnings	10.00 to	11.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	67.00 to	69.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	$ 60.00 to	$ 62.00
No. 2 hvy. melting	51.00 to	53.00
No. 2 bundles	35.00 to	37.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 74.00
No. 2 hvy. melting, cut 2 ft. and under	66.00
No. 1 dealer bundles	82.00
No. 2 bundles	58.00
Mixed steel scrap	53.00
Bush. new fact. prep'd.	77.00
Bush. new fact. unprep'd.	60.00
Machine shop turnings	30.00
Short steel turnings	30.00
Mixed borings and turnings	19.00
Cast scrap	97.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 64.00 to	$ 65.00
No. 2 hvy. melting	54.00 to	55.00
No. 2 bundles	33.00 to	34.00
Machine shop turnings	13.00 to	14.00
Crushed turnings	23.00 to	24.00
Shredder scrap	75.00 to	76.00
Cut structural plate, 2 ft. and under	89.00 to	90.00
Cut structural plate, 5 ft. and under	74.00 to	75.00
Unstripped motor blocks	52.00 to	53.00
Cupola cast	83.00 to	84.00